

Integration of Land-use and Highway Planning

GLENN C. RICHARDS

Commissioner of Public Works
Detroit, Michigan

The lack of integration of land-use and highway planning is shown by the horrible examples of inefficient, dangerous, obsolete highways in every part of this country. While it is easy to criticize the highway engineer for not having visioned some of today's problems, we must all share in the mistakes of the past.

Highway administrators, highway engineers, planners and even engineering schools must admit that little thought was given to future land-use when past highways were located and planned. Unlimited access, narrow right-of-way, and no zoning or restrictions were common practice. Only recently have we recognized the importance of the land-use planner or traffic engineer in the location and the design of our highways.

We, as highway administrators and engineers, have had little respect for the professional planner. Planning, as a profession, was given little consideration in our colleges. The planner in the past got his education as an architect, an engineer, an economist or a sociologist (sometimes a little of each). We visioned him as working in an ivory tower and considered his suggestions and ideas as impractical. Even the present-day planner with his sound technical education and training will have to admit that many of the early so-called planners were somewhat impractical. However, we are entering a new era. Giant strides are now being taken in the redevelopment of this country both in rural areas and in our cities. Modern highways are being provided to serve all parts of our country as well as our cities and metropolitan areas.

The federal highway administrator and the chief engineer of the Bureau of Public Roads have both indicated the importance they place on the location of the future highways to meet the land-use plans. The amendments to the Federal Aid Highway Act in 1956 for the first time spelled out the importance that Congress places on giving due consideration to land-use plans and particularly pointing out the intent of the amendment to give equal consideration to local problems.

It is estimated that at least 75 per cent of Americans will be living in urban areas in the next 20 years. More than half of our citizens now live in cities. While I recognize the importance of land-use planning in the rural areas, my experience has been mostly in urban areas and therefore I would like to discuss this particular phase of planning.

Cities are recognizing more every day the importance to their economy of the efficient movement of people and goods on modern highways. However, we are also becoming aware that badly located highways can have a damaging effect on the orderly development of our cities. Sound integration of city planning in all its phases with highway planning is a must at an early stage in the development of any local highway or transportation plan. Progressive officials in the Bureau of Public Roads, the American Association of State Highway Officials and the American Municipal Association recognize this fact and are making every effort to persuade city and state officials of its importance. Cities are being urged to make comprehensive land-use studies and to prepare master plans of their cities, integrating the land-use studies with their master highway and street plans. Highway officials are being urged to establish urban divisions within the highway department and staff these divisions with urban-trained traffic engineers and planners. Smaller cities will have to depend in many cases on the state highway departments to make the necessary origin-destination studies and for the preparation of local urban highway master plans. Medium-size cities, which do not have an adequate staff of planners and traffic engineers, can avail themselves of trained consultants who are becoming more and more qualified to assist cities in the preparation of sound master plans.

Many cities have made considerable progress in the last few years not only in developing their own master and highway plans but in working out a cooperative arrangement with the state highway departments whereby the technicians of both city and state highway departments work cooperatively in the preparation of local master plans.

DETROIT'S EXPERIENCE WITH EXPRESSWAYS

Our experience in Detroit might be of help to some cities, as we have been working very closely with the State Highway Department for many years in both the planning and building of expressways and thoroughfares in our city. Following the passing of the Federal Aid Highway Act of 1944, when for the first time federal funds were earmarked for state trunklines inside cities, the State Highway Department of Michigan and the city of Detroit entered into an agreement for the planning and building of expressways. This agreement is still in effect and has been supplemented with additional agreements from year to

year. Two weeks ago our state highway commissioner submitted a new agreement providing for a 10-year planning and construction program for expressways in Detroit. This program, based on a comprehensive origin-destination survey made jointly for the entire area, will meet the needs of Detroit for the next 25 years. Under this agreement the city of Detroit will act as agent for the state in the planning, right-of-way acquisition, and supervision for a part of the program.

We will continue to have a joint engineering and planning staff who will determine location, design standards, and so forth. The Wayne County Road Commission will also act as an agent for the State Highway Department in a similar capacity on certain portions of the program. The teamwork which has been developed between these three agencies in the past has shown real results and we anticipate that jointly we can plan and build our entire express highway needs for the area during the next ten years.

I would like to emphasize the importance that each agency places on the technical advice of our land-use planners and traffic engineers. Both have played a very important part in the design and location of our expressway program.

Detroit's citizens are delighted with the ease and speed with which they can now travel along our new expressways which already knit together the emerging City of Tomorrow. This new concept of the Design City of the Future, with the highway as a framework for living, ties together the homes; the cultural and recreational facilities, including schools, libraries, parks and playgrounds; the shopping centers; and the industrial districts. The highway becomes a positive and creative design element in urban redevelopment and the local resident becomes a new and respected consideration in the master plan of the city. In Detroit, the city planner and the highway engineer are collaborating so that the highway capacity requirements can be calculated with a high degree of dependability. Present and projected residential densities are known for every section of the city, including neighborhoods to be redeveloped in the older part of the city.

Problems created by the redevelopment of residential areas and building up of new areas have been carefully analyzed in relation to Detroit's Master Plan of Expressways and Major Thoroughfares. A long-range program of basic research is progressing and all future highway planning will benefit by the research being conducted.

From experience provided by the Detroit Metropolitan Area Traffic Study it is evident that problems created by the expansion and redevelopment of residential areas (from the point of view of transportation problems they create) have a real and particular meaning to both trans-

portation planners and the city planners. In order to provide an estimate of the 1980 traffic generated in the metropolitan area, it was necessary to obtain the pattern of 1980 population densities as well as land-uses for the city of Detroit and the metropolitan region. It became necessary to determine just what portion of the total future traffic volumes will proceed over expressways, what over major thoroughfares, and what on local residential streets. Herein lies one of the fundamental relationships on which will clearly hinge the success of restoring thousands of worn out and blighted areas of residential land-use to sound and stable residential neighborhoods. An adequate answer to the problem requires nothing less than the comprehensive assignment of estimated future traffic volumes to each traffic route by type—whether expressway, major or minor thoroughfare, or local residential street serving a given residential neighborhood.

The logical result of this process of city planner working with traffic engineer and expressway builder is a sound and practical articulated system of traffic ways in which a detailed traffic volume map itself would visually express the proper balance of traffic carried by the entire network of streets and highways. There is no room for guesswork in such highway planning of the future. It calls for a careful balancing of highway capacity per lane, per hour of moving traffic for every type of route—local, major or expressway. Indeed, such factual data is vital in determining the spacing and capacity of expressways as well as the pattern and capacity of major thoroughfares and local streets.

Detroit plans to so improve and revitalize its major industrial districts so that there will be a real inducement for residents of adjoining residential neighborhoods to work near their homes and thus cut down in the total volume of daily travel in the region. Similarly, the provision of a total pattern of convenient regional shopping centers to serve Detroit and the region will have the effect of decreasing the travel distance for shopping trips. The provision of adequate local recreational areas in every neighborhood in the city will tend to limit the travel to distant regional recreation centers.

Detroit is currently refining its Master Plan by relating expressways, industrial corridors, residential neighborhood boundaries, and commercial areas. The expressways serve in many cases as boundaries between industrial corridors and residential neighborhoods. In its central area, Detroit's expressways provide a clear and dominant urban design framework for rebuilding the heart of the city, including the central business district, which is rapidly developing into one of great beauty and efficiency, with the Civic Center, the Convention Center, the Cultural Center, and the Medical Center on its periphery.

Let me repeat. Cities are well aware that the movement of people and goods on modern highways is important. They also fear the disadvantages that poorly located highways can have on the future land values and tax base of their city. The value of a poorly located or poorly designed highway could well be less than the damages caused to the city. An integrated plan, giving full weight to land-use as well as to traffic flow, is possible and such highways can be the savior of our future urban areas.